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The extent and timing of the last British-Irish Ice Sheet offshore of west Ireland—preliminary findings

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Recently interpreted marine geophysical data from the western Irish shelf has provided the first direct evidence that the last British-Irish Ice Sheet (BIIS) extended westwards onto the Irish continental shelf as a grounded ice mass composed of several lobes with marine-terminating margins. Marine terminating ice margins are known to be sensitive to external forcing mechanisms and currently there is concern regarding the future stability of marine based ice sheets, such as the West Antarctic Ice Sheet, in a warming world. Given its position, the glaciated western Irish continental shelf is a prime location to investigate the processes of how marine-based ice sheets responded to past climatic and oceanic events, which may in turn help us better predict the future trajectory of the marine sectors of modern Ice Sheets. However, despite the potential importance of the former Irish ice margin to our understanding of ice sheet behaviour, the timing and nature of its advance and retreat is currently poorly understood. This study aims to describe the depositional history of the last BIIS on the continental shelf west of Ireland and age-constrain the rate of retreat of two ice lobes that extended from Galway Bay and Clew Bay. This is being accomplished through a multifaceted analysis of at least 29 sediment cores gathered across the continental shelf offshore of counties Galway and Mayo, Ireland. This poster shows results from initial sedimentological descriptions of cores from the mid to outer shelf, which support previous geomorphic interpretations of BIIS history. Preliminary palaeoenvironmental results from ongoing micropaleontological analyses are also discussed and provide new data that verifies sedimentary interpretations on ice proximity. Finally, results from several radiocarbon dates are discussed, which limit these deposits to the last glacial maximum and constrain the timings of ice advance and retreat on the continental shelf west of Ireland.